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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,815	12/19/2005	Masaaki Miyanaga	19036/41345	6677

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EXAMINER
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COLLINS, GIOVANNA M

ART UNIT	PAPER NUMBER
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3672

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/539,815

Applicant(s)

MIYANAGA, MASA AKI

Examiner

Giovanna M. Collins

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 4935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/20/05, 11/28/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
  - (2) if an article, its method of making;
  - (3) if a chemical compound, its identity and use;
  - (4) if a mixture, its ingredients;
  - (5) if a process, the steps.
2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Extensive mechanical and design details of apparatus should not be given.

3. The abstract of the disclosure is objected to because it refers to the purport merits such as "high cutting performance without deformation" and uses the phrase "is disclosed" which is improper for the abstract. Correction is required. See MPEP § 608.01(b).

### ***Claim Objections***

4. Claim 4 is objected to because this claim recites the limitation "the drill bit" in line 4. There is insufficient antecedent basis for this limitation in the claim as this limitation has not be previously recited.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by McAllister 2708104.

Referring to claim 3, McAllister discloses (fig. 1) a cutting portion structure of a core drill including a cylindrical core body (6); and cutting blades (at 14), the cutting portion structure comprising: an opening end portion (at 10) formed on the cylindrical core body, the opening end portion being rounded as viewed from a direction substantially perpendicular to a cross-section in a radial direction of the core body (see

fig. 2), wherein the cutting blades are formed at the opening end portion of the cylindrical core body and arranged in a circumferential direction of the core body to have gaps (see fig. 13, at 13) between the cutting blades, and the cutting blades include diamond grains (col. 2, lines 68-70) bound on the opening end portion from an inner peripheral side of the core body to an outer peripheral side of the core body, wherein the opening end portion (at 7) is partially expanded in the radial direction to have a thickness larger than a thickness of a base end side portion of the core body which is closer to a base end of the core body than the opening end portion is, and the expanded portion of the opening end portion is entirely rounded (at 10) as viewed from the direction substantially perpendicular to the cross-section in the radial direction, the cutting portion structure further comprising: a step portion (at 7) formed between the opening end portion and the base end side portion of the core body to form a right angle between the step portion and the base end side portion.

Referring to claims 4-5, McAllister discloses a gallet (13) formed on a portion of a tip end portion of the core body which is located forward relative to the cutting blade in a rotational direction (see fig. 1 at a spiral) of the drill bit such that the gallet is located adjacent the cutting blade to allow chips resulting from cutting to be discharged therethrough and the gallet is structured such that a bottom portion thereof is located radially inward relative (see fig. 2 at 13) to an outer peripheral face of the core body, and an upper end portion of the gallet (see fig. 1, at 13) forms a face continuous with a base end side portion of the core body which is located above the gallet.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over McAllister '104 in view of Hampe et al. 3692127.

Referring to claims 6-7, McAllister does not disclose a protruding portion. Hampe teaches (fig. 1) a protruding portion formed in a spiral shape (spiral above element g) on an outer peripheral face of the side portion of the core body. This portion helps to evacuate cuttings. As it would be advantageous to have a mechanism to evacuate the cuttings, it would be obvious to one of ordinary skill in the art to modify the cutting portion disclosed by McAllister to have a protruding portion in view of the teachings of Hampe.

***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Giovanna M. Collins whose telephone number is 571-272-7027. The examiner can normally be reached on 6:30-3 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3672

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

gmc



**Giovanna M. Collins**  
**Patent Examiner**  
**Technology Center 3670**